

**REMARKS**

Claims 1-21 are pending in this application. In view of at least the following, reconsideration and allowance are respectfully requested.

**I. Claim Rejection under 35 U.S.C. § 102**

The Office Action rejects claims 1, 3, 4, 6-13, 16, and 21 under 35 U.S.C. § 102(e) over U.S. Patent Application Publication No. 2003/0070913 (Miller). This rejection is respectfully traversed.

It is well settled that a claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference. See MPEP § 2131. Despite the Office Action's assertions, Miller does not teach each and every feature presently recited in claims 1, 3, 16 and 21.

**A. Independent Claim 1**

Independent claim 1 recites, in part, "an electrode part constituted of plural electrodes; a charge storage part connected with the electrode part in series for storing charge, and an AC power source for applying AC voltage to a serial connection circuit formed of the electrode part and the charge storage part, wherein by applying the AC voltage to the serial connection circuit formed of the electrode part and the charge storage part by the AC power source, discharge is intermittently caused in each inter-electrodes of the plural electrodes of the electrode part, and plasma is thereby generated" (emphasis added).

Miller fails to disclose or render obvious the above-quoted features recited in claim 1. Specifically, Miller fails to disclose: (i) a charge storage part connected with the electrode part in series for storing charge; and (ii) an AC power source for applying AC voltage to a serial connection circuit formed of the electrode part and the charge storage part. The Office Action asserts that Miller discloses a charge storage part that is composed of electrodes 14 and 16 separated by gap G, as illustrated in Figs. 11 and 12. The Office Action then relies on

paragraph [0093] of Miller as disclosing that the alleged charge storage part is connected in series with the plural electrodes. Applicants respectfully submit that the Office Action is interpreting the language of [0093] out of context. In particular, paragraph [0093] discloses that accelerator electrode 60 can be a series of small electrodes. However, the accelerator electrode 60 itself is not connected in series with the alleged charge storage part. Rather, the accelerator electrode 60 is part of the alleged charge storage part - this is illustrated in, for example, Figs. 11 and 12.

Thus, Miller fails to disclose each and every element recited in claim 1.

Accordingly, withdrawal of the rejection of claim 1 is respectfully requested.

### **B. Independent Claim 3**

Independent claim 3 recites, in part, "an electrode unit constituted of a first electrode, an insulating material or a dielectric material provided around the first electrode, and a second electrode provided around the insulating material or the dielectric material; a third electrode facing the first electrode; and a power source for applying voltage between the second electrode and the third electrode, wherein by the power source, the voltage is applied between the second electrode and the third electrode, discharge is thereby caused between the first electrode and the third electrode, and plasma is thereby generated" (emphasis added).

Miller fails to disclose or render obvious the above-quoted features recited in claim 3. The Office Action asserts that the ionizer illustrated in Fig. 11 has three electrodes 14, 16 and 60. Further, the Office Action asserts that the three electrodes 14, 16 and 60 are connected with a power sources. However, the electrode 60 is an accelerating electrode. Therefore, predetermined bias is applied to the electrode 60. Accordingly, electrode 60 is not a floating electrode.

The first electrode of the presently claimed combination of features is a floating electrode and the second and third electrodes are connected to a power source. Thus, unlike

Miller, the presently claimed combination of features allow for the first electrode to be a floating electrode rather than having a predetermined bias applied to it.

Thus, Miller fails to disclose each and every element recited in claim 3.

Claims 4-14 depend from claim 3. Because Miller fails to disclose or render obvious the features recited in independent claim 3, dependent claims 4-14 are patentable for at least the reasons that claim 3 is patentable, as well as for the additional features they recite.

Accordingly, withdrawal of the rejection of claim 3 is respectfully requested.

**C. Independent Claim 16**

Independent claim 16 recites, in part, "a processing chamber for processing a substrate; and a plasma generator for generating plasma, wherein the substrate is processed by using a reactant obtained by exposing a processing gas to the plasma generated by the plasma generator, the plasma generator comprising: an electrode unit constituted of a first electrode, an insulating material or a dielectric material provided around the first electrode, and a second electrode provided around the insulating material or the dielectric material; a third electrode facing the first electrode; and a power source for applying voltage between the second electrode and the third electrode, wherein by applying the voltage between the second electrode and the third electrode, discharge is caused between the first electrode and the third electrode, and plasma is thereby generated" (emphasis added).

Miller fails to disclose or render obvious the above-quoted features recited in claim 16. As discussed with respect to claim 3, Miller discloses that all three of the electrodes 14, 16 and 60 are connected to a predetermined bias, rather than allow one of the electrodes to be a floating electrode.

Thus, Miller fails to disclose each and every element recited in claim 16.

Accordingly, withdrawal of the rejection of claim 16 is respectfully requested.

**D. Independent Claim 21**

Independent claim 21 recites, in part, "an electrode part constituted of plural electrodes; plural charge storage parts connected in series to the electrode part to store charge; and an AC power source for applying AC voltage to a circuit in which the plural serial connection parts formed of the electrode part and the plural charge storage parts are connected in parallel, wherein by applying the AC voltage by this AC power source to the circuit in which the serial connection part formed of the electrode part and the plural charge storage parts are connected in parallel, discharge is intermittently caused between plural electrodes of the electrode part, and plasma is thereby generated."

Miller fails to disclose or render obvious the above-quoted features recited in claim 21. As discussed with respect to claim 1, Miller fails to disclose or render obvious a charge storage part connected in series with an electrode part. Thus, Miller fails to disclose each and every element recited in claim 21.

Accordingly, withdrawal of the rejection of claim 21 is respectfully requested.

## **II. Claim Rejections under 35 U.S.C. § 103**

The Office Action rejects claims 2, 15, 17 and 20 under 35 U.S.C. §103(a) over Miller; rejects claim 14 under 35 U.S.C. §103(a) over Miller in view of U.S. Patent No. 6,833,121 (Cooper). These rejections are respectfully traversed.

It is well settled that in determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *See* MPEP § 2141.02. To this end, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *See* MPEP § 2141.02 VI.

To establish a prima facie case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation to modify the reference or to combine reference

teachings; (2) there must be reasonable expectation of success; and (3) the prior art reference must render obvious all the claim limitations. *See* MPEP § 2142.

**A. Independent Claim 2**

Independent claim 2 recites, in part, " an electrode part constituted of plural electrodes; a charge storage part connected with the electrode part in series, for storing charge; and an AC power source for applying AC voltage to a serial connection circuit formed of the electrode part and the charge storage part, wherein by applying the AC voltage to the serial connection circuit formed of the electrode part and the charge storage part by the AC power source, discharge is caused intermittently in each inter-electrodes of the plural electrodes of the electrode part, and ozone is generated by supplying gas containing oxygen atom in the discharge atmosphere" (emphasis added).

As discussed with respect to claim 1, Miller fails to render obvious the charge storage part being in series with the electrode part. Therefore, Miller fails to render obvious the subject matter recited in claim 2.

Accordingly, withdrawal of the rejections is respectfully requested.

**B. Claims 15, 17 and 20**

As discussed with respect to claim 3, Miller fails to disclose or render obvious one of the electrodes being a floating electrode. Rather, Miller discloses that all three electrodes 14, 16 and 60 are connected to a predetermined bias. Therefore, Miller fails to render obvious the subject matter recited in claims 15, 17 and 20.

Accordingly, withdrawal of the rejections is respectfully requested.

**C. Dependent Claim 14**

As discussed with respect to claim 3, Miller fails to disclose or render obvious one of the electrodes being a floating electrode. Rather, Miller discloses that all three electrodes 14, 16 and 60 are connected to a predetermined bias. Applicants respectfully submit that Cooper

fails to cure the deficiencies of Miller. Therefore, Miller and Cooper, in any combination, fail to render obvious the subject matter recited in Claim 14.

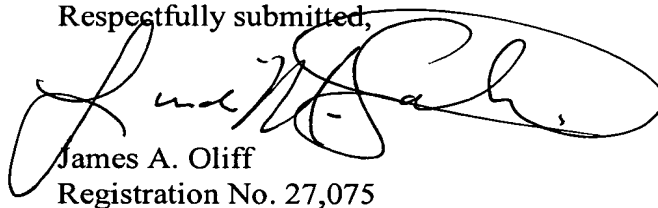
Accordingly, withdrawal of the rejections is respectfully requested.

**III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:LMS/dqs

Attachment:  
Petition for Extension of Time

Date: August 29, 2008

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